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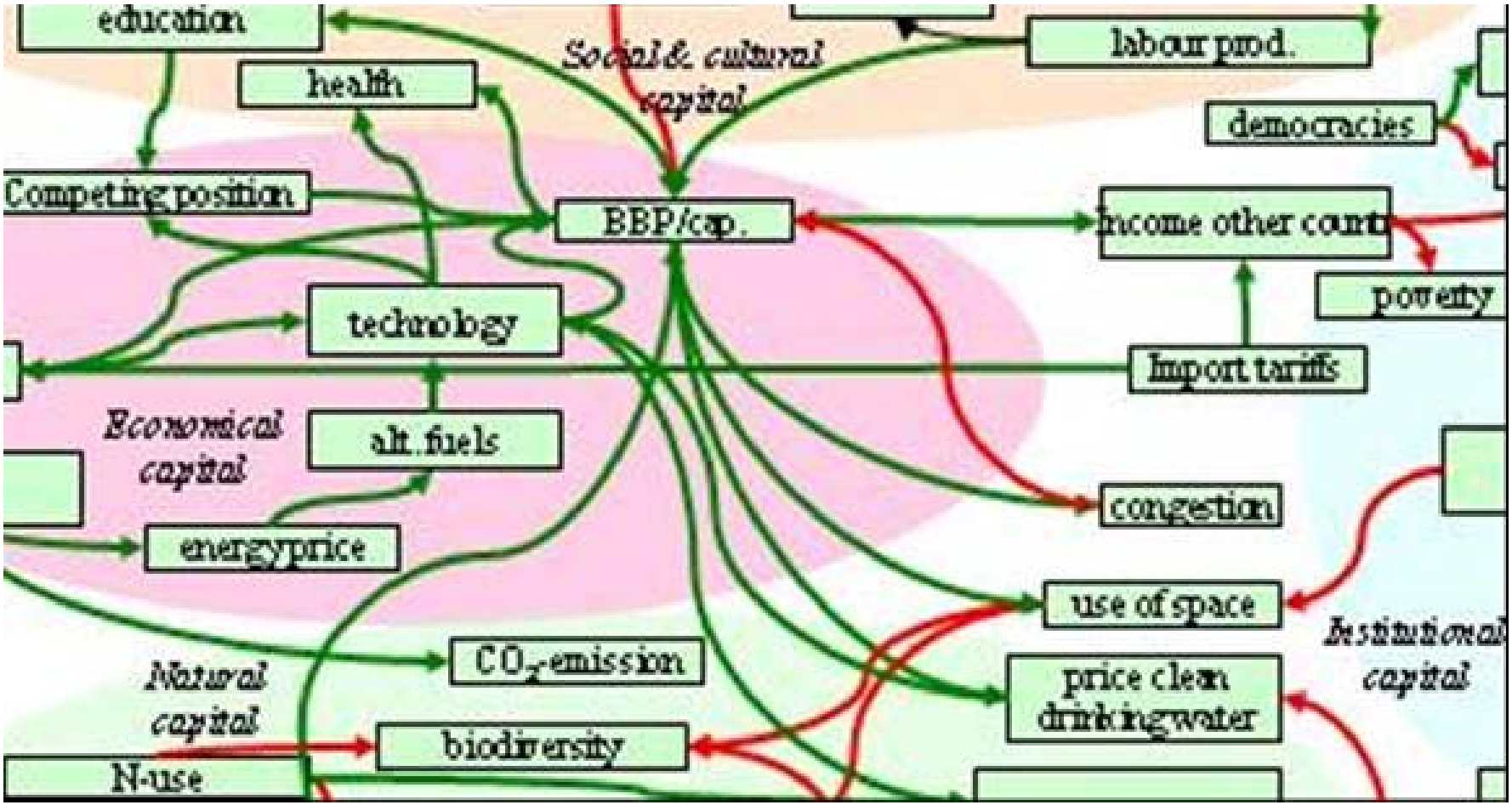
How to communicate complex problems?

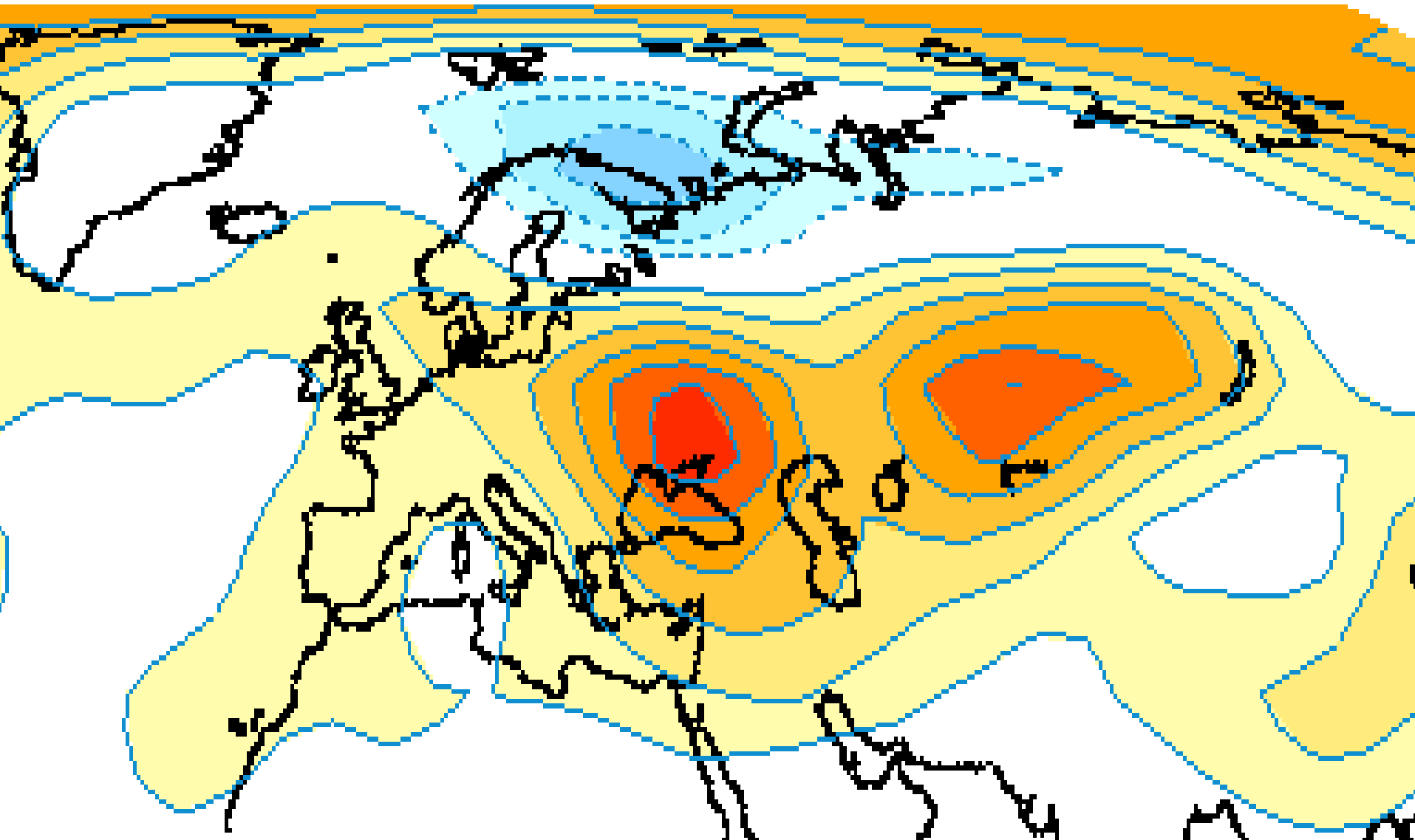
Rob Maas,

Netherlands Environmental Assessment Agency

Complexity: there is no accurate description of a system simpler than the system itself.



Is it difficult to communicate complex science?



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How to deal with uncertainties?

- Scientists frame the system
- Can scientific simplifications and the choice of the system boundaries affect policy advice?
- How to communicate systematic biases?

- Assessment and decision taking belong together!

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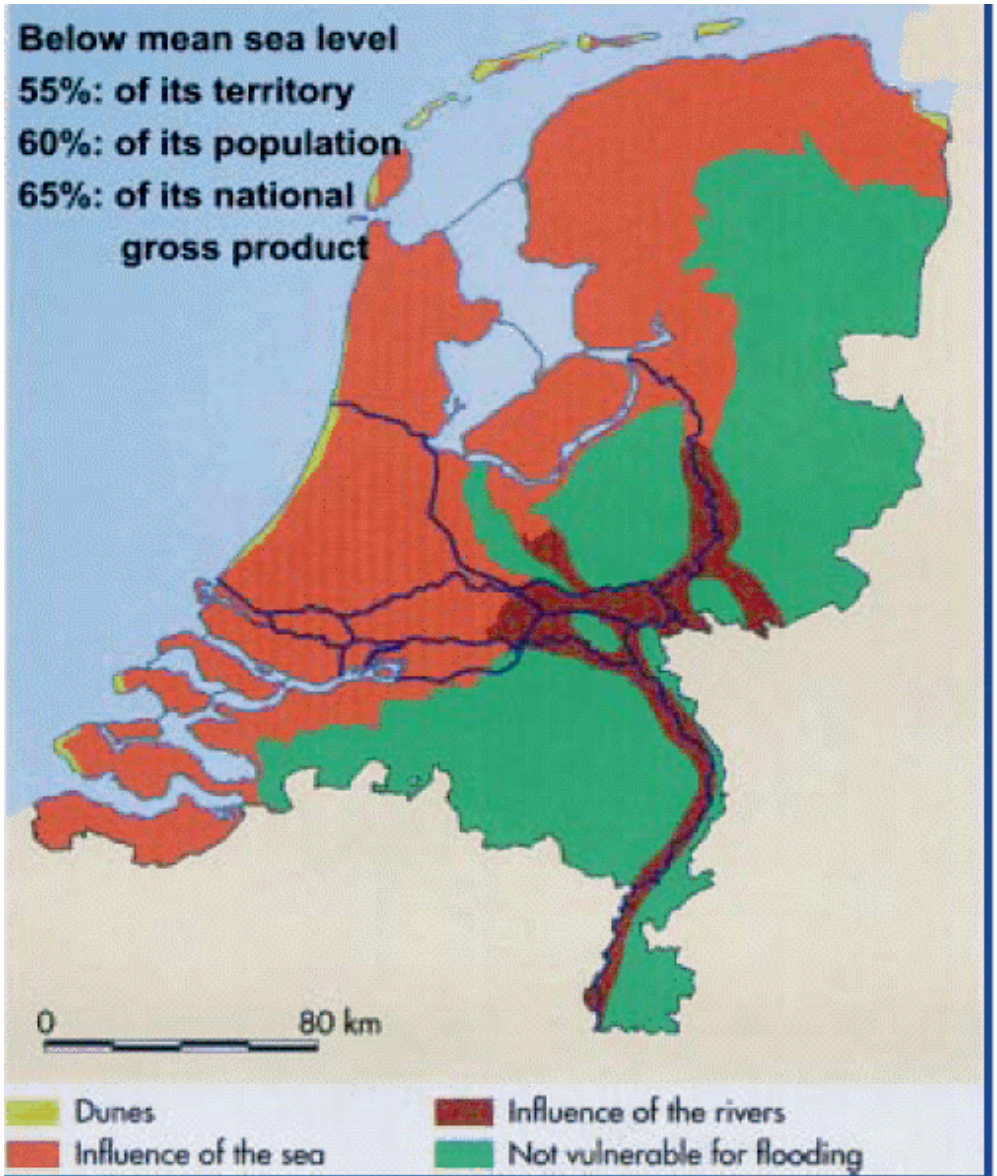
The poldermodel: 800 yrs of interaction between science and policy



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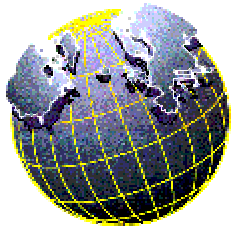

Successful dialogue

- Common goal
- Continuity
- Mutual trust
- Voluntary sharing of knowledge leads to new knowledge
- Gradual process of increased complexity
- Vague boundary between science and policy
- Collaboration rather than competition or top-down co-ordination

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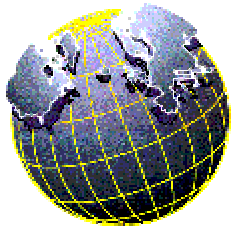
Successful dialogue (2)



- Political preferences are constructed during the process.
- Well designed procedures to
  - include stakeholder openness,
  - disclosure of beliefs and values,
  - willingness to understand the other (to go beyond the given perspective)
  - manage conflicts (both legally and scientifically)

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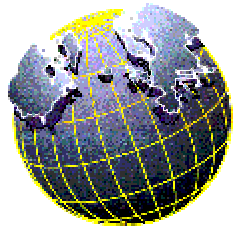

RISKS

- Group think (blind spots)

  → openness, respect dissidents
- Conservatism (we always did it this way)

  → paradigm shifts ?
- Partial solutions

  → look beyond boundaries, reframe problem
- Denial of the role of values

  →

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When uncertainty is large, values become important

- Competing policy targets & stakeholders
- When science is not conclusive → scope for different interpretations of risks involved
- Large uncertainties + high stakes = unstructured debate

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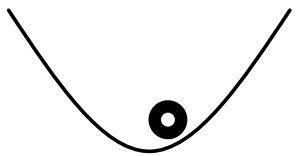
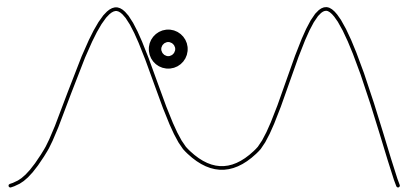
Structuring unstructured problems

Is there a problem?

Optimist

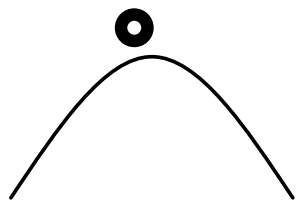


Hierarchist



Fatalist

Risk averser



Source: M. Thompson

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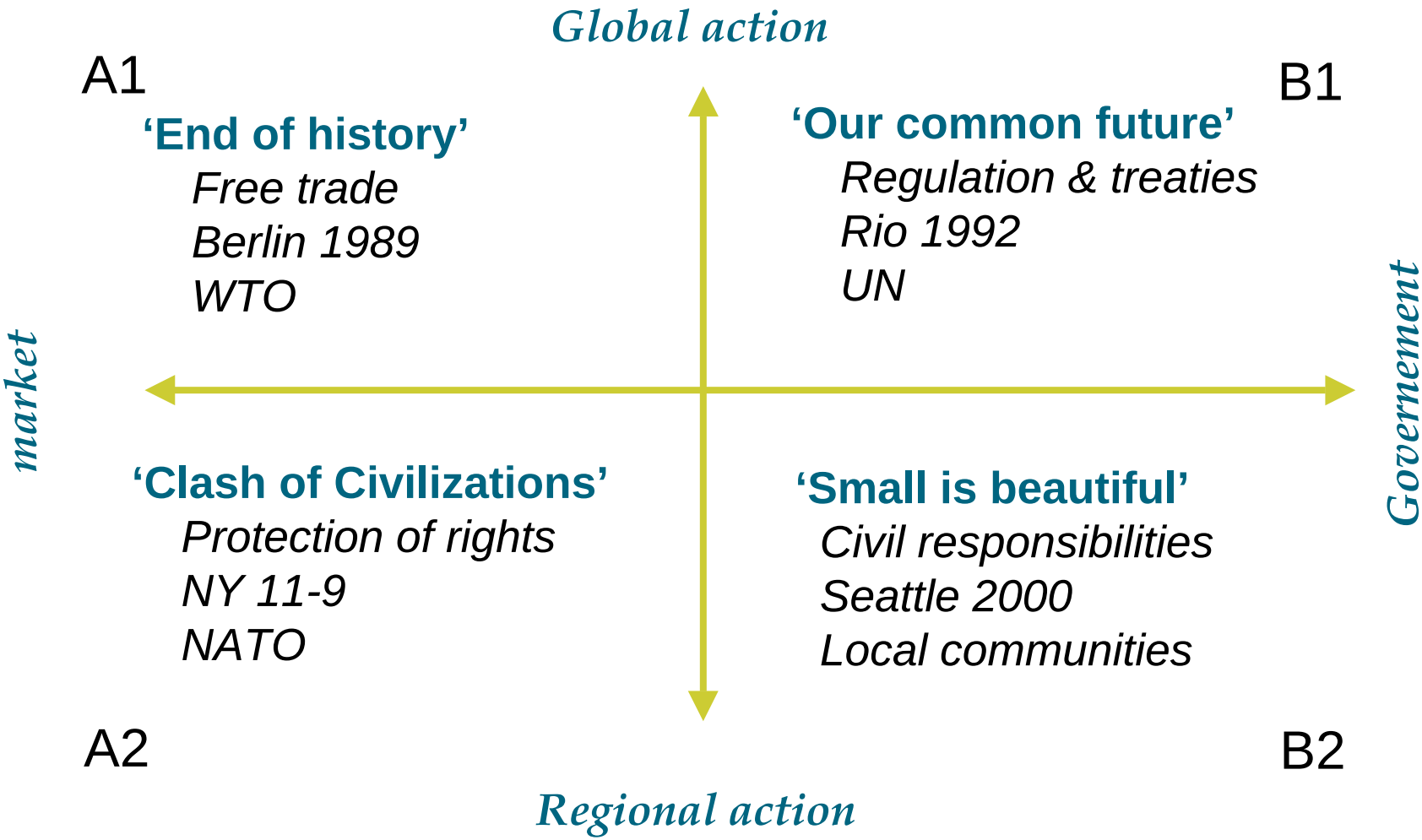
World views



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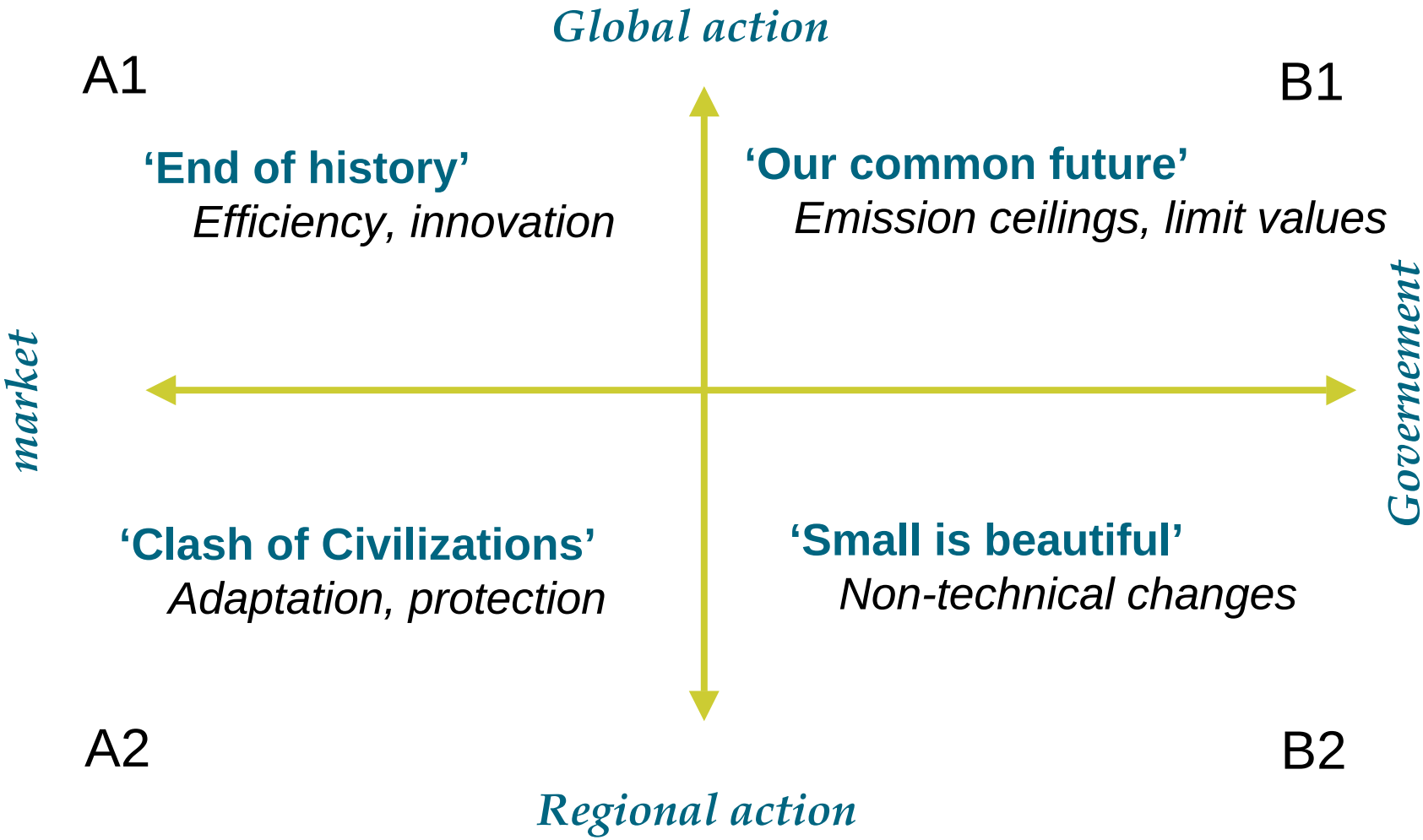
World views



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World views

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World views

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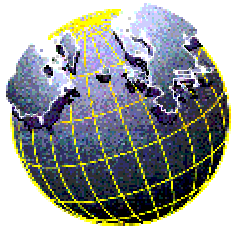
Concluding questions



- How can the quality of the decision taking process be further improved? More SD-thinking?
- How to extend towards ‘forgotten’ stakeholders & issues (other departments, politicians, local authorities, press, public?)
- Sooner or later a discussion on values & ultimate ends will also penetrate the air pollution arena – how to prepare?
- How to combine the targeted & demand driven EU-approach with the bottom up UN-approach?

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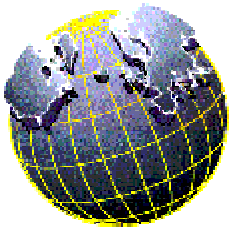
Thank you

Role of science



- US: adversal; pluralistic; linkage with stakeholders; ‘excellence’
- CLRTAP:consensus oriented;

  learning process within the ‘group’

  risks:

  - closed shop

  - lack of trust in (independent) science

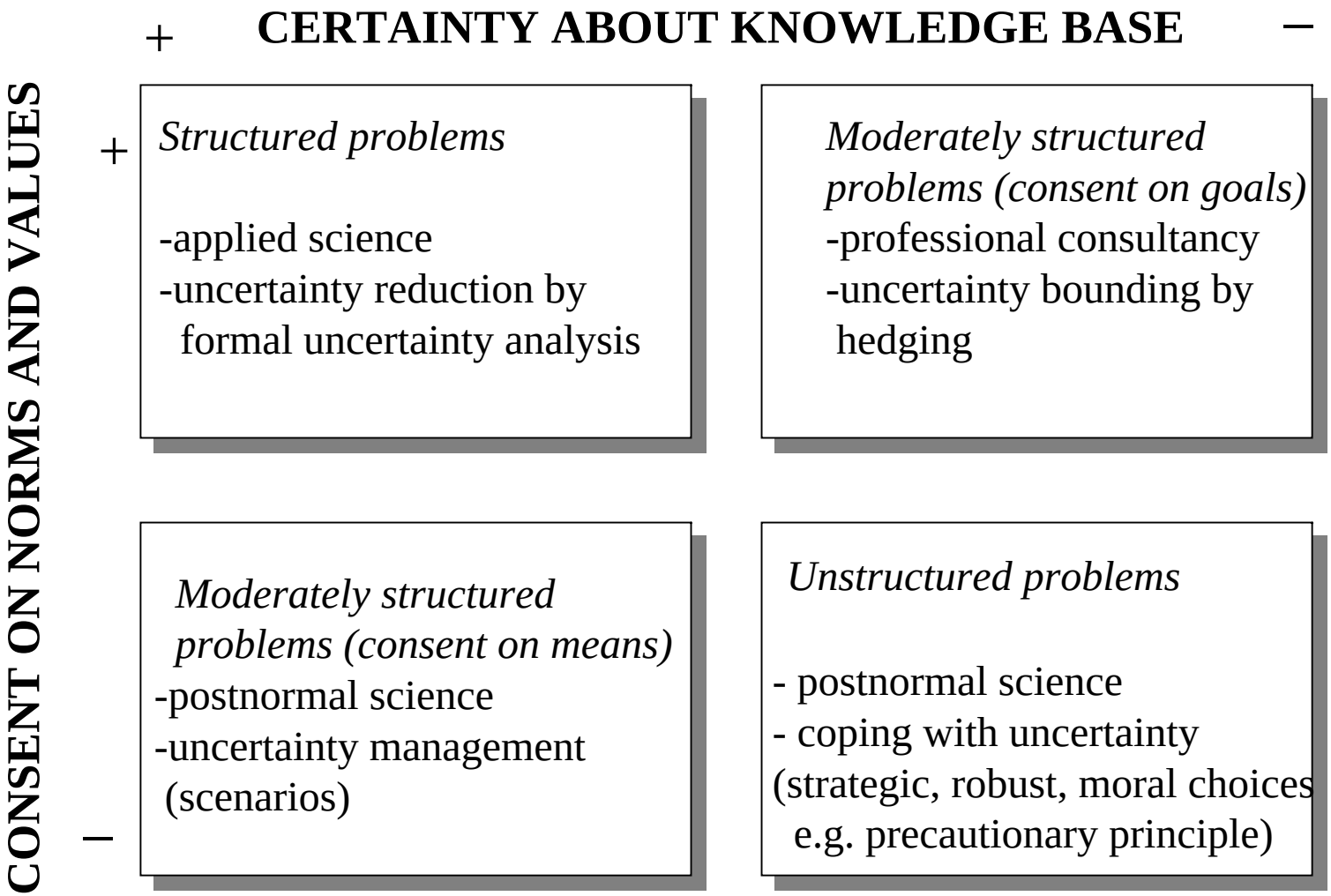
How to remain open to dissident views?

Comparative analysis of science for policy…

	US	***Britain***	***Germany***
Ways of public knowledge-making	Pluralist, interest-based	Embodied , service-based	Corporatist, institution-based
Public Accountability	Assumptions of distrust Legal	Assumptions of trust Relational	Assumptions of trust Role-based
Demonstration (practices)	Socio-technical experiments	Empirical science	Expert rationality
Objectivity (styles)	Numerical; reasoned	Negotiated	Negotiated; reasoned
Expertise (preferred modes)	Formal methods	Experience	Training, skills, experience

Source: Jasanoff

TYPES OF POLICY PROBLEMS and UNCERTAINTY STRATEGIES



Source: Funtowicz & Ravetz

Responses to Incertitude